

Serial No.: 10/083,973
Amendment Dated: November 8, 2004
Reply to Office Action of September 29, 2004
Express Mail Label: EV487233497US

REMARKS/ARGUMENTS

Claims 1-8 are withdrawn from further consideration as being drawn to a non-elected group.

Claims 9-15 are rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,763,677 in view of Badalament et al. Claims 9-15 are further rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,457,402 in view of Badalament et al. In response, the applicants are submitting herewith a Terminal Disclaimer with respect to U.S. Patent Nos. 6,763,677 and 6,457,402.

Claims 9-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Badalament et al (6,012,384) in view of Briscoe Jr. et al. (6,390,378) and Cantagallo et al. (3,733,849). Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Badalament et al., in view of Briscoe Jr. et al., and Cantagallo et al. and further in view of Hearne Jr. (6,202,434).

The applicants have reviewed the cited references in detail and believe that the present claims, as amended, are patentably distinctive thereover for the reasons to be discussed hereinbelow.

The present invention relates to a method and apparatus for introducing a ripening agent into the conditioned air of a mobile container refrigeration system and for controlling the process by selectively turning on the ripening process and then, after a period of time, turning off the process and flushing the system of any remaining ripening agent. That is, at the end of the ripening cycle a fresh air exchanger is automatically activated to vent the container of ripening agent to ambient and replace the vented air with outdoor air, after which it is automatically turned off.

The Badalament reference shows a similar mobile ripening container wherein its refrigeration system includes a pair of air delivery plenums that run along side the side walls of a mobile container in abutting contact with a portion of the cargo load.

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That reference also shows a gas generator 116 for dispensing ethylene gas in the plenums. However, the Badalament reference does not show or suggest either 1) "a fresh air exchanger unit which is normally in a closed condition to retain the conditioned air within said container during said ripening cycle and to exchange conditioned air with ambient air when placed in an open conditioner at the conclusion of said ripening cycle" or 2) "control means for activating the gas generator at the beginning of the ripening cycle and for automatically deactivating the gas generator at the end of a ripening cycle or 3) control means for determining when said gas generator is deactivated and responsively and automatically placing the fresh air exchanger unit in an open condition for a given period of time to vent the ripening agent from said container and automatically closing the fresh air exchanger when the ripening agent has been vented to ambient".

The Briscoe reference describes a container system with apparatus for controlling the humidification therein. This is accomplished by the flow of a fluid from a reservoir 6 to a manifold 6, which is controlled by a control 5 in response to data received from the container 3 by way of the data line 7. Thus, the controller 5 controls operation of the humidification system 200 to activate and deactivate the humidification system 200 in accordance with the desired humidity level in the container 3. It does not show or suggest a fresh air exchanger unit or how its humidifier control unit may be used to control such a system.

The Cantagallo reference shows a refrigeration system for an insulated container with means for circulating fresh air into the interior of the container. While this is described for primarily as a means of deleting the respiration-produced gases (such as carbon dioxide) which would otherwise accumulate in the container atmosphere (see column 11, lines 57 and after), the system also provides for a turning off of the fresh air changer at the beginning of the ripening schedule and the turning of it back on after a predetermined time interval (see column 13, lines 9-17). However, as will be seen in the description in column 12, line 63 through column 13, line 8, this is accomplished by manually manipulating the shaft 65. It should

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therefore be recognized from this description that 1) this reference does not teach the flushing out of the ripening agent by a turning on of the fresh air changer when the gas generator is deactivated but only that would be turned off at the beginning of the ripening schedule ... then after a predetermined time interval the fresh air change arrangement is returned to the "on" or enable position. That is, it does not teach the turning on of the fresh air exchanger when the ripening cycle is discontinued. Secondly, controlling means are not provided to automatically place the fresh air exchanger in an open condition when the gas generator is deactivated nor automatically closing the fresh air exchanger when the ripening agent has been vented to ambient. Rather, in each case, it is left to the operator to determine when this is accomplished and then only by manually manipulating the shaft 65, is the fresh air change arrangement turned off. Thus, depending on the knowledge and vigilance of the operator, the fresh air changer is likely to be turned on and off at different times in relation to the turning on and off of the ripening agent, and the operator is also likely, at times, to forget to perform those manual functions.

In his rejection of claims 9-12 and 15, the Examiner admits that Badalament et al. does not recite a control means for the fresh air exchanger but states that: "Cantagallo et al. teach a mobile container device comprising a fresh air exchanger unit (column 12, line 3 through column 13, line 16). Briscoe Jr. et al. teach a mobile container device comprising a control means for activating a fresh air exchanger, gas generator, and fan (Fig. 2, number 5; column 8, lines 12-63). It would have been obvious to one of ordinary skill in the art to incorporate the fresh air exchanger of Cantagallo et al into the invention of Badalament et al. since both are directed to mobile container devices, since Badalament et al. already included doors which could exchange fresh air (column 6, line 45), and since the fresh air exchanger of Cantagallo et al. can be used without having to manually open the rear doors of Badalament et al. for instance during transport". To this, the applicants respectfully disagree.

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Firstly, the applicants question whether it is obvious to one skilled in the art to combine the features of Badalament et al. and Cantagallo et al. since the Badalament reference teaches the circulation of cooling air from a mixing chamber at the front of the vessel to passageways along the sides thereof, and then through the cargo and back to the mixing chamber by way of a central passageways as shown in Figs. 5 and 6, while the Cantagallo et al reference shows the air circulation passing from the air conditioner down into the floor channels and upwardly through the cargo. Thus, the fresh air changer of Cantagallo et al. is adapted to circulate fresh air up through the flow channels and wouldn't be obviously or readily adaptable to use in the Badalament et al container which uses an entirely different circulation system.

Further, assuming arguendo, that the fresh air changer of Cantagallo et al. were incorporated into the Badalament et al. apparatus, it would not result in the present invention. That is, it would not provide a control means for activating a gas generator at the beginning of a ripening cycle and for automatically deactivating the gas generator at the end of the ripening cycle; and for automatically placing the fresh air exchanger in an open condition when the gas generator is deactivated and for automatically closing the fresh air exchanger when the ripening agent has been vented to ambient as recited in amended claim 9. As discussed hereinabove, even if the Cantagallo et al reference its fresh air changer are incorporated into Badalament, it would still be necessary to manually operate the fresh air charges and it would not be automatic and timed in a manner as claimed by the applicants.

The Examiner has also said that: "It would have been obvious to one of ordinary skill in the art to incorporate the control of Briscoe Jr et al into the invention of Badalament et al, in view of Cantagallo et al. since all are directed to mobile container devices, since Badalament et al already included fans, gas generator, and rear doors which could exchange fresh air (Figs. 2-4, number 60, 116; column 6, line 45), since Cantagallo et al. already included a fresh air unit (column 12, line 3 to column 13, line 16), and since the control means of Briscoe Jr. et al

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would have provided improved automatic control of these elements, for instance during transport". Again, the applicants respectfully disagree.

Although the Briscoe et al. reference provides in column 8, lines 51 and after that "in addition, controller 5 may be configured to control systems necessary to perform the functions necessary to supply, maintain and manage other atmospheric components, such as nitrogen, oxygen, carbon dioxide, ethylene, etc, temperature and/or electrical power or independently configured to control one or more functions such as humidity in combination with one or more other controllers to control other functions, such that the desired atmosphere in an environment is achieved and maintained for the perishable goods", it does not show or suggest how the other functions may be controlled. In this regard, the applicants strongly disagree with the Examiners conclusion that "Briscoe Jr. et al teach a mobile container device comprising a control means for a fresh air exchanger, gas generator, and fans".

Even assuming, arguendo, that the features of Briscoe Jr. et al were incorporated with the Badalament reference in view of Cantagallo et al as suggested by the Examiner, it would most likely result in a system wherein the container of Badalament would include a humidification system that was controlled as shown and described in Briscoe Jr. et al and possibly a fresh air unit that is manually turned on and off by an operator as taught by Cantagallo et al. Clearly, none of the references taken individually or in combination teach an automatically controlled fresh air system as described and claimed in the present invention. The applicants believe that it is only with hindsight that one skilled in the art may find it obvious to incorporate the features of Briscoe Jr. et al in the Badalament et al reference in view of Cantagallo to obtain the applicant's invention.

In respect to dependent claims 13 and 14, although both the Hearne Jr. reference and the Briscoe Jr. et al show a mobile container device including drains in the floor, neither of those references either by itself or in combination with the other cited references, include "control means for placing the drain means in a closed position wherein moisture is maintained within the container during a ripening cycle

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and an open position wherein moisture in the container is released to the surrounding atmosphere”.

For the reasons discussed hereinabove, the applicants believe that the claims, as amended, are patentably distinctive over the cited references. A reconsideration of the Examiner’s rejection and a passing of the case to issue is therefore respectfully requested.

If the Examiner wishes to expedite disposition of the above-captioned patent application, he is invited to contact Applicant's representative at the telephone number below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-0289.

Respectfully submitted,

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